HUBUNGAN JARAK SALURAN PEMBUANGAN LIMBAH CAIR TEMPE DENGAN KANDUNGAN BOD DAN COD AIR SUMUR GALI DI DESA BANDUNGREJO KECAMATAN MRANGGEN KABUPATEN DEMAK

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Sentra industri tempe di Desa Bandungrejo Kecamatan Mranggen Kabupaten Demak menghasilkan limbah cair 0,735m^3/hari/industri. Jarak saluran pembuangan limbah cair tempe dengan sumur gali 2-10 meter. Kandungan BOD dan COD cukup tinggi yaitu BOD 10,49 mg/l-133,82 mg/l dan COD 17,80mg/l-401,47mg/l. Tujuan penelitian ini adalah untuk mengetahui hubungan jarak pembuangan saluran pembuangan limbah cair tempe dengan kandungan BOD dan COD air sumur gali. Jenis penelitian adalah *explanatory research* dengan pendekatan *cross sectional*. Populasi adalah seluruh sumur gali yang ada di Desa Bangurejo Kecamatan Mranggen Kabupaten Demak,sebanyak 928 buah sumur gali. Sedangkan sampel adalah semua sumur gali milik industri tempe di Desa Bangunrejo sebanyak 30 buah. Dari hasil penelitian kandungan BOD dan COD air sumur gali yang memenuhi syarat berdasarkan PP No 82 tahun 2001 adalah 23,33%. Kandungan BOD tertinggi sebesar 6,4 mg/l pada jarak3 meter. Kandungan COD tertinggi sebesar 40 mg/l pada jarak 3 meter dan 2,5 meter. Dari hasil uji korelasi *pearson product moment* untuk parameter BOD diperoleh r=-0,804, merupakan korelasi yang sangat kuat. Sedangkan untuk parameter COD diperoleh r=0,574, korelasi sedang dan arah negatif serta diperoleh p value 0,000 $\leq$0,05 (BOD) dan p value 0,001(COD) yang berarti ada hubungan jarak sumur gali dengan pembuangan limbah cair tempe. Kesimpulan dari penelitian ini adalah jarak sumur gali dengan saluran pembuangan limbah cair tempe antara 2-10 meter, sedangkan sumur gali yang diperiksa kandungan BOD dan COD yang tidak memenuhi syarat berdasarkan PP No 82 tahun 2001 sebanyak 23 buah (76,67%). Saran-saran : Perlu adanya penekanan bagi pengusaha tempe agar membuang limbah cair agar diolah terlebih dahulu serta perlu disosialisasikan tentang persyaratan kontruksi fisik sumur gali yang memenuhi syarat bagi masyarakat serta budaya hidup bersih sehingga lingkungan tetap terjaga dan kualitas air tanah sebagai bahan baku air minum bisa dimanfaatkan masyarakat dengan baik

Kata Kunci: Jarak, limbah cair tempe, air sumur gali, BOD dan COD*Soybean*

THE CORELATION BETWEEN DISTANCE OF THE DISPOSAL OF FERMENTED SOYBEAN LIQUID WASTES AND THE BOD, COD LEVEL OF DUG WELL IN BANDUNGREJO VILLAGE, MRANGGEN SUBDISTRICT, DISTRICT OF DEMAK

fermented soybean industrial centered on Bandungrejo Village, Mranggen Subdistrict, Demak Regency, producing waste as much as 0,735 ^{3}/day/industry. Distance between the disposal of soybean wastes to the dug well is 2-10 meters.BOD and COD level is high enough, which is BOD 10,49 mg/l-133,82 mg/l and COD 17,80 mg/l-401,47 mg/l. The purpose of the research is detecting and understanding the corelation between distance of the disposal of soybean wastes and BOD and COD level of dug well. This research is classified as sxplanatory research with cross sectional approach. The population are all dug wells (928 dug wells) on Bandungrejo Village, Mranggen Subdistrict, Demak regency. And the samples are all dug wells owned by soybean industry (30 dug wells) on Bandungrejo Village. From the research, it is showed that BOD and COD level of water of dug well which can fulfill all requirement based on governmental regulatin number 82 year of 2001 is 23,33%. The highest BOD level is 6,4 mg/l on 3 meters distance.The highest COD level is 40 mg/l on 3 meters and 2,5 meters distance. Based on person product moment corelation test, it result r=-0,804 for BOD, which shows a significant corelation, it also result r=-0,574 for COD, which an average and negative corelation. It also shows 0,000 < 0,05 p value for BOD and 0,001 < 0,05 p value for COD which indicates that there is a corelation between distance between dug well and disposal of soybean wastes. It could be concluded that there is 2-10 meters distance between dug well and disposal of soybean wastes, and it is obtained an unfulfilled BOD and COD level of 23 dug wells(76,67%) based on govermental regulatin number 82 year of 2001. Advices : An emphasizing to the soybean industrialists is needed, in order to process the wastes before discarding it and a soci alization of dug well physical construction prerequirements which could fulfill the society and also healthy life culture in order to keep and maintain the environment and soil water as primary material of drinking water which could be used well by the society.

Keyword : liquid wastes, water of dug well, BOD and COD